MI FluFocus

Influenza Surveillance and Avian Influenza Update

Bureau of Epidemiology
Bureau of Laboratories

Michigan Department of Community Health
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New updates in this issue:

- **Michigan Surveillance:** Activity declines to "Regional"; reported hospitalizations and deaths still steady.
- **National Surveillance:** 99% of all viruses subtyped in the U.S. continue to be 2009 H1N1 influenza.
- **International Surveillance:** Widespread outbreaks of 2009 H1N1 were reported in Europe.

****2009 Influenza A (H1N1) virus Updates****

Please continue to reference the State of Michigan's novel 2009 influenza A (H1N1) website at www.michigan.gov/h1n1flu and the MDCH influenza website at www.michigan.gov/flu for additional information. Local health departments can find guidance documents in the MI-HAN document library. In addition to the previous websites, additional laboratory-specific information is located at the Bureau of Laboratories H1N1 page at http://www.michigan.gov/mdch/0,1607,7-132-2945_5103-213906--,00.html.

International (WHO H1N1 2009 update 77 [edited], December 4): In the temperate zone of the northern hemisphere, the early arriving winter influenza season continues to intensify across central Europe and in parts of central, eastern, and southern Asia. Disease activity has peaked and is declining in N. America and has either recently peaked or is currently peaking in much of west and north Europe.

In both Canada and the United States, influenza virus circulation remains active and geographically widespread, however, disease activity appears to have peaked in past 3 to 4 weeks. In the United States, deaths due to pneumonia and influenza (P&I mortality) continued to increase past the epidemic threshold for the past 8 weeks and cumulative rates of hospitalizations for the current influenza season have exceeded rates seen in recent seasons among all age groups except those aged ≥ 65.

In Europe, widespread and intense transmission of pandemic influenza virus continued to be observed across most of the continent. In western and northern Europe the peak of disease activity has passed in Belgium, Iceland, Ireland, Netherlands, Norway and parts of the United Kingdom (Northern Ireland, Wales); activity may be peaking or plateauing in Spain, Portugal, Italy, Sweden and Denmark. Influenza activity continues to increase in much of Central Europe in the region between the Baltic and Balkan countries and from Germany to Romania. In Eastern Europe, recent peaks or plateaus in disease activity have also been observed in Ukraine, Belarus, Bulgaria and the Republic of Moldova. In the Russian Federation, influenza activity remains active and intense in some regions, with an overall increasing trend. A moderate impact on the healthcare system has been reported in parts of Northern and Eastern Europe. Over 99% of subtyped influenza A viruses in Europe were pandemic H1N1 2009.

In Western and Central Asia, influenza transmission remains active. Disease activity continues to increase in Kazakhstan, Kyrgyzstan, Uzbekistan, Iran and Iraq, while activity may have peaked in Israel, Jordan, and Afghanistan. In East Asia, increasing ILI or respiratory disease activity has been reported in Southern China and Japan. A recent decline in activity has been observed in Northern China. In South and Southeast Asia, influenza activity continues to increase in the north-western parts of India, Nepal, Sri Lanka, and Cambodia, while activity in the rest of region remains low.

In the tropical zone of Central and South America and the Caribbean, influenza transmission remains geographically widespread but overall disease activity has been declining except for focal areas of increasing activity in Jamaica, Venezuela, and Ecuador.

In Africa, pandemic H1N1 2009 virus continues to be isolated from all parts of the continent, and there is evidence of continued co-circulation of pandemic (H1N1) 2009 and seasonal H3N2 viruses.

In the temperate region of the southern hemisphere, little pandemic influenza activity has been reported.

The countries and overseas territories/communities that have newly reported their first pandemic (H1N1) 2009 confirmed cases since the last web update (No.76): None. The countries and overseas territories/communities that have newly reported their first deaths among pandemic (H1N1) 2009 confirmed cases since the last web update (No 76): Romania and Slovakia.

Region	Deaths
WHO Regional Office for Africa (AFRO)	108
WHO Regional Office for the Americas (AMRO)	5878
WHO Regional Office for the Eastern Mediterranean (EMRO)	392
WHO Regional Office for Europe (EURO)	at least 918
WHO Regional Office for South-East Asia (SEARO)	766
WHO Regional Office for the Western Pacific (WPRO)	706
Total	at least 8768

******Influenza Surveillance Reports******

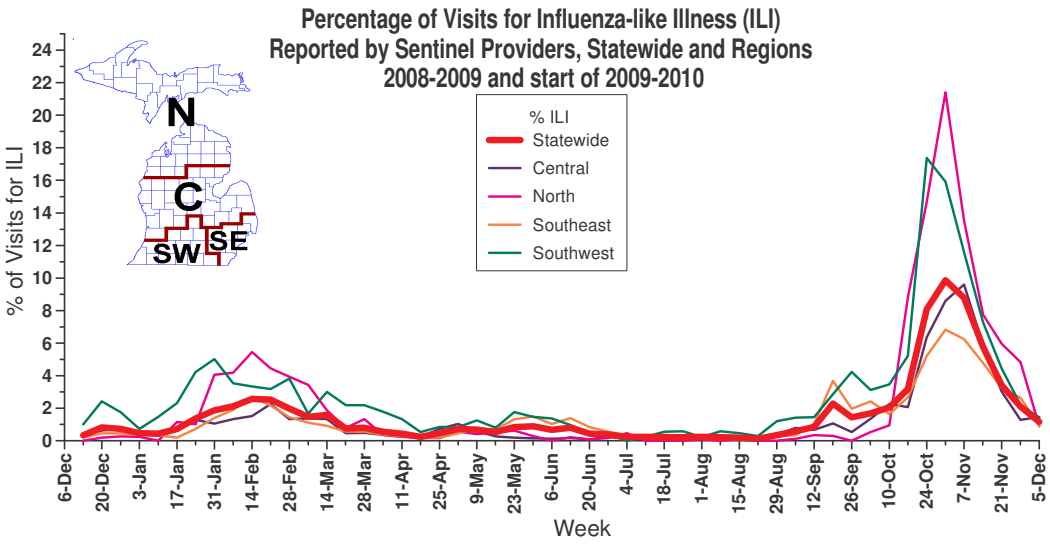
Michigan Disease Surveillance System: The week ending December 4 saw aggregate flu-like, individually reported influenza cases, and 2009 novel H1N1 case reports similar to last week's levels. Cases reported this week are notably higher than those seen during the identical week of the previous year, except for aggregate flu-like illness reports, which are now similar to levels seen last year.

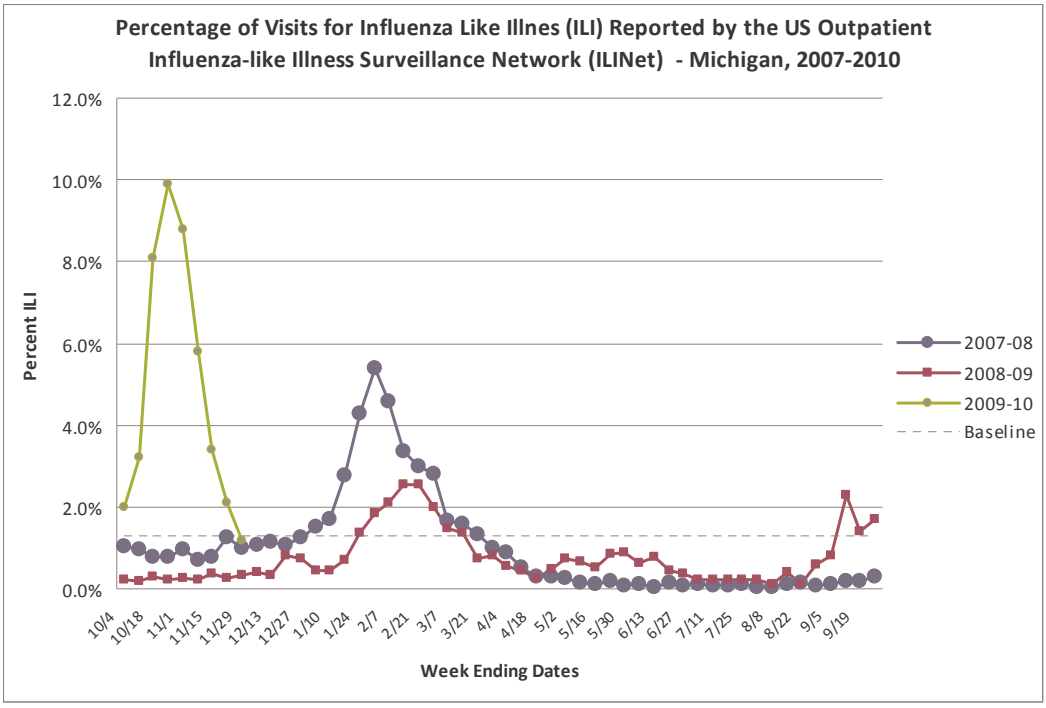
During the week of November 29 – December 5, 2009, 9002 cases of flu-like illness and confirmed and probable cases of seasonal and novel influenza were reported in Michigan. 171 hospitalizations and 8 deaths associated with influenza were reported during this time. This report is updated every Tuesday by 5:00 pm and can be accessed at "Current H1N1 Activity" on this website: http://www.michigan.gov/h1n1flu.

Emergency Department Surveillance: Emergency department visits from both constitutional and respiratory complaints were lower than last week's levels. Both constitutional and respiratory complaints are comparable to what was seen this time last year. There were two total constitutional alerts generated in the N(2) Influenza Surveillance Region last week. Nine total respiratory alerts were generated in the N(5), C(3) and SE(1) Influenza Surveillance Regions last week.

Over-the-Counter Product Surveillance: Overall, OTC product sales were mixed. Thermometer sales saw a decrease in sales compared to the previous week, while chest rubs showed a slight increase over the past two weeks. The remaining indicators held steady near the previous weeks' sales numbers. All sales indicators, with the exception of thermometer sales, which are slightly higher, are comparable to levels seen at this time last year.

Sentinel Provider Surveillance (as of December 10, 2009): During the week ending December 5, 2009, the proportion of visits due to influenza-like illness (ILI) continued to decrease for the fifth week in a row to 1.2% overall; 133 patient visits due to ILI were reported out of 11,357 office visits. Thirty-three sentinel sites provided data for this report. Activity decreased in three surveillance regions: Southeast (0.9%), Southwest (1.4%) and North (0.9%) and slightly increased in the Central (1.5%) region. Please note that these rates may change as additional reports are received.





As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Cristi Carlton at 517-335-9104 or CarltonC2@michigan.gov for more information.

Laboratory Surveillance (as of December 5): During the week of November 29 – December 5, MDCH Bureau of Laboratories identified 19 novel H1N1 influenza A isolates. For the 2009-2010 season (starting on October 4, 2009), MDCH BOL has identified 583 influenza isolates:

- Novel Influenza A (H1N1): 582
- Influenza B: 1

15 sentinel labs reported for the week ending December 5, 2009. 2 labs reported elevated levels of influenza A positives (SE), 5 labs reported sporadic numbers of flu A positives (SW,C, N), and 8 labs reported no flu A positives (SE, SW, C, N). 1 lab reported sporadic influenza B positives (SE).

Michigan Influenza Antigenic Characterization (as of December 10): One novel H1N1 influenza A virus from Michigan has undergone further characterization at the CDC. This virus was characterized as A/California/07/2009 (H1N1)-like, which is the recommended strain for the H1 component of the 2010 Southern Hemisphere vaccine.

Michigan Influenza Antiviral Resistance Data (as of December 10): Results are currently not available for antiviral resistance at CDC for the 2009-2010 season.

Antiviral resistance testing takes months to complete and cannot be used to guide individual patient treatment. However, CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza. The guidance is available at http://www.cdc.gov/H1N1flu/recommendations.htm.

Influenza-Associated Pediatric Mortality (as of December 10): Four influenza-associated pediatric mortalities (SE(2), SW, N) associated with novel H1N1 influenza has been reported to MDCH for the 2009-2010 influenza season.

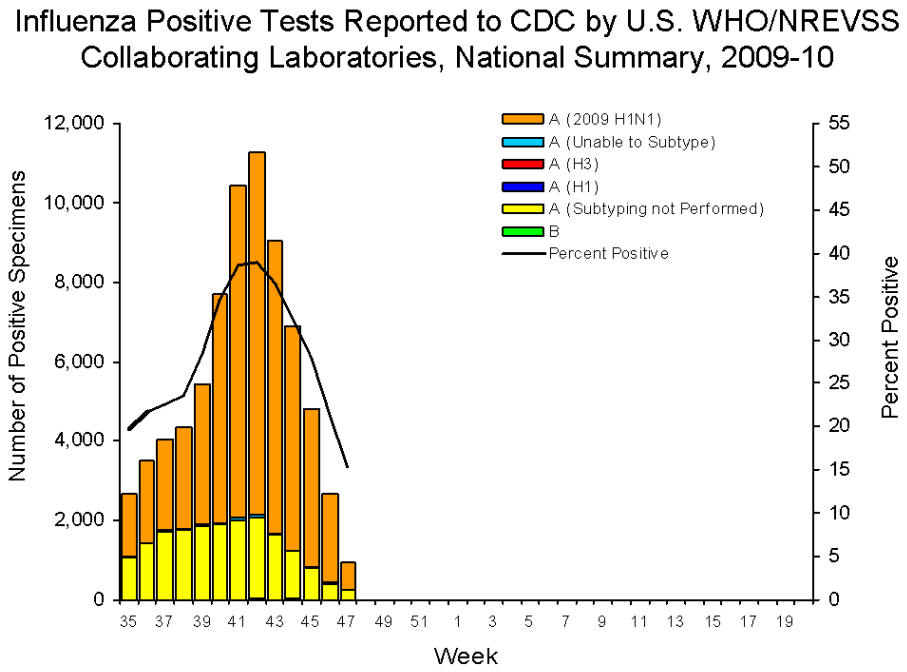
***CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper specimens are obtained. View the complete MDCH protocol online at http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

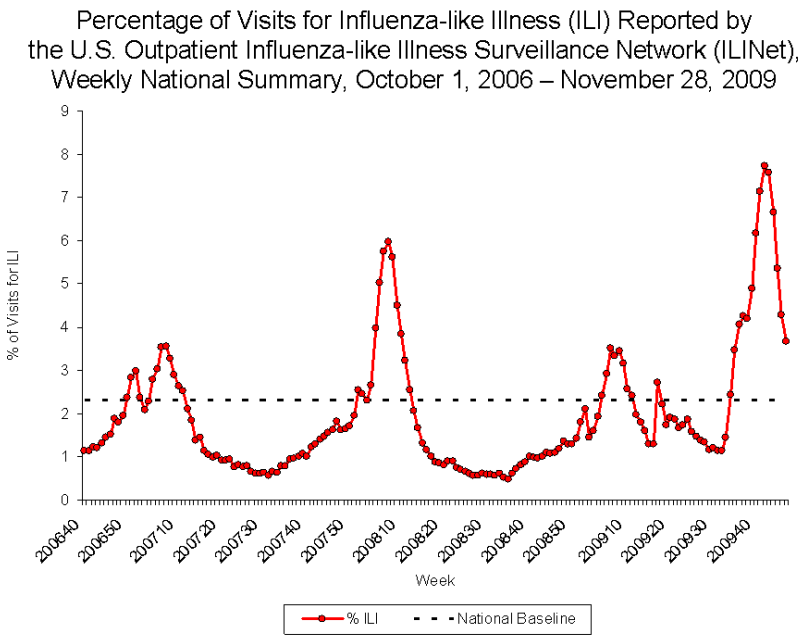
Influenza Congregate Settings Outbreaks (as of December 10): Seven congregate setting outbreaks with confirmatory novel influenza A H1N1 testing (2SE, 3 SW, 1C, 1N), and two outbreaks associated with positive influenza A tests (1C, 1N) have been reported to MDCH for the 2009-2010 influenza season. These are 8 school facilities and 1 long term care facility.

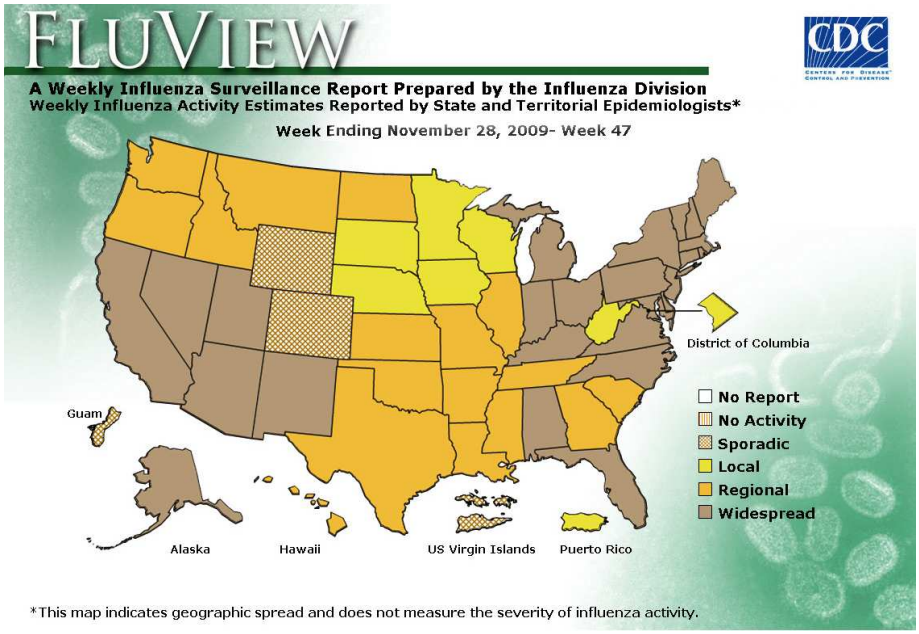
As of 9:00am on December 11, 2009, 567 influenza-related school and/or district closures in Michigan (Public Health Preparedness Region 1 - 55, Region 2N - 4, Region 2S – 8, Region 3 - 54, Region 5 - 153, Region 6 - 100, Region 7 - 109, Region 8 - 84) have been reported.

National (CDC [edited], December 4): During week 47 (November 22-28, 2009), influenza activity continued to decrease in the U.S. 956 (15.4%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. Over 99% of all subtyped influenza A viruses being reported to CDC were 2009 influenza A (H1N1) viruses. The proportion of deaths attributed to pneumonia and influenza (P&I) was above the epidemic threshold for the ninth consecutive week. Seventeen influenza-associated pediatric deaths were reported. Twelve of these deaths were associated with 2009 influenza A (H1N1) virus infection and five were associated with an influenza A virus for which the subtype was undetermined. The proportion of outpatient visits for influenza-like illness (ILI) was 3.7% which is above the national baseline of 2.3%. Eight of the 10 regions reported ILI at or above region-specific baseline levels. Regions 6 and 10 reported ILI below their region specific baselines. Twenty-five states reported geographically widespread influenza activity, 17 states reported regional influenza activity, the District of Columbia, Puerto Rico and six states reported local influenza activity, and Guam, the U.S. Virgin Islands and two states reported sporadic influenza activity.

To access the entire CDC weekly surveillance report, visit http://www.cdc.gov/flu/weekly/fluactivity.htm







From http://www.cdc.gov/h1n1flu/updates/us/#totalcases:

U.S. Influenza and Pneumonia-Associated Hospitalizations and Deaths from Aug 30 – Nov 28, 2009

Cases Defined by	Hospitalizations	Deaths
Influenza Laboratory-Tests**	31,320	1,336

**States report weekly to CDC either 1) laboratory-confirmed influenza hospitalizations and deaths or 2) pneumonia and influenza syndrome-based cases of hospitalization and death resulting from all types or subtypes of influenza. Although only the laboratory confirmed cases are included in this report, CDC continues to analyze data both from laboratory confirmed and syndromic hospitalizations and deaths.

International (WHO, November 27): During the weeks 44-45, many countries in the northern hemisphere reported increasing pandemic influenza A (H1N1) 2009 virus activity. In tropical regions of the Americas and Asia, influenza activity due to 2009 H1N1 remained variable with most countries in the tropical areas of Central and South America reporting declining influenza activity, with the exception of Peru and Colombia. Activity in the southern hemisphere was low or below baseline.

In the northern hemisphere, widespread outbreaks of pandemic influenza A (H1N1) 2009 were reported in Europe particularly in countries in Scandinavia, eastern Europe and south-eastern Europe. Increased activity was seen in some parts of Asia and a number of regions in Canada. In the United States of America, influenza transmission remained geographically widespread, although activity appeared to have recently peaked in most areas except in the northeastern United States.

Widespread outbreaks were reported in Belarus, Belgium, Bulgaria, Denmark, Finland, Germany, Iceland, Israel, Japan, Mongolia, Netherlands, Norway, Republic of Moldova, Russian Federation, Spain and Sweden. Regional outbreaks were reported in Austria, China, France, Italy, Kazakhstan, Morocco, Poland, Portugal, Serbia, Switzerland, Romania, Ukraine and the United Kingdom of Great Britain and Northern Ireland.

Local levels of pandemic influenza A (H1N1) activity were reported in Afghanistan, Albania, Argentina, Azerbaijan, Bosnia and Herzegovina, Croatia, Czech Republic, Estonia, France, Georgia, Greece, Hungary, Iran, Italy, Madagascar, Serbia, Slovakia, Slovenia, Tunisia and Turkey. Sporadic pandemic influenza A (H1N1) 2009 activity was reported in China Hong Kong Special Administrative Region, Kenya, Latvia, Lithuania, New Zealand, Senegal and Sri Lanka.

The level of seasonal influenza activity in most countries was low with only sporadic detections. China reported local outbreaks of H3 as well as low levels of H1 and B. Sporadic seasonal influenza activity was observed in Canada (H3,B), China Hong Kong Special Administrative Region (H1,H3,B), France (B), France French Guiana (B), Kenya (H3,B), Russian Federation (H1,H3,B), Senegal (H3) and Tunisia (H3,B). Australia, Kyrgyzstan and Uzbekistan reported no influenza activity.

MDCH reported **REGIONAL INFLUENZA ACTIVITY** to the CDC for the week ending December 5, 2009.

For those interested in additional influenza vaccination and education information, the MDCH *FluBytes* is available at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html.

Avian and Novel Influenza Activity

WHO Pandemic Phase: Phase 6 – characterized by increased and sustained transmission in the general population. Human to human transmission of an animal or human-animal influenza reassortant virus has caused sustained community level outbreaks in at least two WHO regions.

National, Human (NIH, December 7): In fatal cases of 2009 H1N1 influenza, the virus can damage cells throughout the respiratory airway, much like the viruses that caused the 1918 and 1957 influenza pandemics, report researchers from the National Institutes of Health (NIH) and the New York City Office of Chief Medical Examiner. The scientists reviewed autopsy reports, hospital records and other clinical data from 34 people who died of 2009 H1N1 influenza infection between May 15 and July 9, 2009. All but two of the deaths occurred in New York City. A microscopic examination of tissues throughout the airways revealed that the virus caused damage primarily to the upper airway -- the trachea and bronchial tubes -- but tissue damage in the lower airway, including deep in the lungs, was present as well. Evidence of secondary bacterial infection was seen in more than half of the victims.

The team was led by James R. Gill, M.D., of the NY City Office of Chief Medical Examiner and New York University School of Medicine, and Jeffery K. Taubenberger, M.D., Ph.D., of the National Institute of Allergy and Infectious Diseases (NIAID) at NIH. The findings are reported in the Archives of Pathology & Laboratory Medicine, now available online and scheduled to appear in the Feb 2010 print issue.

"This study provides clinicians with a clear and detailed picture of the disease caused by 2009 H1N1 influenza virus that will help inform patient management," says NIAID Director Anthony S. Fauci, M.D. "In fatal cases of 2009 H1N1 influenza, it appears the novel pandemic influenza virus produces pulmonary damage that looks very much like that seen in earlier influenza pandemics." The new report also underscores the impact 2009 H1N1 influenza is having on younger people. While most deaths from seasonal influenza occur in adults over 65 years old, deaths from 2009 H1N1 influenza occur predominately among younger people. The majority of deaths (62 percent) in the 34 cases studied were among those 25 to 49 years old; two infants were also among the fatal cases.

Ninety-one percent of those autopsied had underlying medical conditions, such as heart disease or respiratory disease, including asthma, before becoming ill with 2009 H1N1 influenza. Seventy-two percent of the adults and adolescents who died were obese. This finding agrees with earlier reports, based on hospital records, linking obesity with an increased risk of death from 2009 H1N1 influenza.

The researchers examined tissue samples from the 34 deceased individuals to assess how 2009 H1N1 influenza virus damaged various parts of the respiratory system. "We saw a spectrum of damage to tissue in both the upper and lower respiratory tracts," says Dr. Taubenberger. In all cases, the uppermost regions of the respiratory tract -- the trachea and bronchial tubes -- were inflamed, with severe damage in

some cases. In 18 cases, evidence of damage lower down in the finer branches of the bronchial tubes, or bronchioles, was noted. In 25 cases, the researchers found damage to the small globular air sacs, or alveoli, of the lungs.

"This pattern of pathology in the airway tissues is similar to that reported in autopsy findings of victims of both the 1918 and 1957 influenza pandemics," notes Dr. Taubenberger.

The researchers also examined 33 of the 34 cases for evidence of pulmonary bacterial infections. Of these cases, 18 (55 percent) were positive for such infections. Not all of those individuals who had bacterial pneumonia along with 2009 H1N1 virus infection had been hospitalized, however, indicating that some had acquired their bacterial infections outside of a health-care setting. This raises the possibility, say the authors, that community-acquired bacterial pneumonia is playing a role in the current pandemic. "Even in an era of widespread and early antibiotic use," write the authors, "bacterial pneumonia remains an important factor for severe or fatal influenza."

Computerized tomography (CT) lung images were available in four cases of pulmonary bacterial infection. In all four cases, the CT scans showed an abnormality known as ground-glass opacity, which are patches of rounded haze not seen in normal lung images. It is not known, say the researchers, whether the abnormalities detected by CT in the four cases also occur in people who have milder H1N1 infections. They call for additional investigation into the utility of CT scans as a tool to help clinicians identify and better treat severe H1N1 infections.

National, Feline (Colorado State University press release [edited], December 4): Two cats from different households in Colorado have tested positive for H1N1, according to Colorado State University's (CSU) Veterinary Diagnostic Laboratory. The felines are expected to recover, but their cases serve as a reminder to pet owners to seek veterinary attention for companion animals that appear to be ill.

The cats in these 2 cases were diagnosed with lower respiratory tract infections by Colorado veterinarians. Both cats are currently ill and have been ill for multiple weeks, with one illness beginning on 2 Oct 2009 and the other beginning in early November. Antibiotics do not treat H1N1, but both cats received antibiotics as a precaution against secondary bacterial infections. Neither cat had signs that responded to antibiotics.

Swabs from the cats' mouth and nose were tested by CSU and additional blood serum confirmation testing from Iowa State University confirmed that they have the pandemic H1N1 strain. Veterinarians believe that both of the cats became ill with H1N1 after a person in their household contracted the virus.

The USDA has reported 3 other confirmed cases of H1N1 in cats, one each in Oregon, Iowa, and Pennsylvania. At least 4 ferrets have been confirmed to have H1N1, four in Oregon and one in Nebraska. Pabilonia said that because this strain of H1N1 is new, information about how it impacts animals is limited. It is possible that any animal may be susceptible to H1N1, but no other cases have been documented in companion animals. To date, there are no reported cases of H1N1 in dogs in the United States. Pet birds have been susceptible to other strains of the flu, but no cases of H1N1 in these animals have been reported.

National, Feline (www.pressdecomcrat.com [edited], December 9): An 8-year-old cheetah that loves to play soccer with its trainers at Santa Rosa's Safari West is the first-known exotic animal in the U.S. to come down with swine flu. The graceful female, named Gijima, tested positive last month to the H1N1 virus after staff members observed it on Nov. 15 coughing, acting lethargic and showing no interest in food.

The staff tested Gijima because Safari West Director Nancy Lang recently had read of a family house cat with similar symptoms that was confirmed to have contracted swine flu. Lang, who with her husband Peter owns the 400-acre wildlife preserve, said she nonetheless was “absolutely stunned” when the cheetah tested positive.

Gijima, whose name means “fast,” has fully recovered, and on Wednesday appeared briefly in the crisp morning air within its large outdoor enclosure. She is one of four cheetahs among the preserve's 700 animals, including giraffes, addax antelopes and Grant's gazelles.

While the staff can't be certain, they suspect Gijima became infected from a human, Lang said. They have ruled out the general public because of barriers that keep guests back about three feet from the cheetah enclosure.

A spokesman for the Association of Zoos and Aquariums in Silver Springs, Md., confirmed that the cheetah is the first case of swine flu in an exotic animal to come to the group's attention.

Spokesman Steve Feldman praised Safari West for quick action and for helping alert other zoos and wildlife preserves to the news. He also emphasized that the animals in zoological institutions don't present a risk of infecting people. “This is not a public health issue as much as an animal health issue,” Feldman said.

What remains key for animal handlers is to employ the same safety procedures as when around humans, only “in the zoological environment,” Feldman said. Among those procedures: “Stay home when you're sick, and especially for our employees who come in close proximity with animals, to limit their contact with animals if they're not feeling well.”

International, Human (CIDRAP News [edited], December 3): The World Health Organization's (WHO's) top influenza expert said today it's too soon to judge whether the H1N1 influenza pandemic has passed its peak, though he acknowledged that cases are dropping in the United States and Canada. "It's too early to say whether activity is peaking in the Northern Hemisphere, and it's not possible to predict what will happen in the spring," said Dr. Keiji Fukuda, special adviser to the WHO director-general on pandemic flu.

In response to questions, Fukuda said it's premature for the WHO to start formal discussions on whether the pandemic has crested. "In some countries there are still increasing infections, even though there are some countries, such as the United States and Canada, where infections are going down," he said. Formal discussions on whether the pandemic is waning won't come until "sometime in 2010," he said.

Recent reports indicate that that the 2nd wave of the pandemic is ebbing in the United States and Canada. The latest report from the US Centers for Disease Control and Prevention (CDC), covering the 3rd week in November, said physician visits for flu-like illness dropped for the 4th straight week. And the Public Health Agency of Canada said on 27 Nov 2009 that all provinces and territories had reached "a possible epidemic peak."

The evidence from Europe is less clear. Today's update from the European Centre for Disease Prevention and Control (ECDC) said [pandemic] H1N1 deaths increased by 6 percent last week, signaling a slower rise in mortality, as the toll had been nearly doubling every 2 weeks over the preceding 6 weeks.

In other comments today [3 Dec 2009], Fukuda said WHO has not calculated a case-fatality rate (CFR) for the pandemic, after a reporter noted that the CDC recently estimated the US CFR to be .018 percent. Fukuda said CFR estimates depend today, as in past pandemics, mainly on gathering data on all deaths and then using modeling techniques to estimate how many were flu-related. "People don't count flu deaths on a one-to-one basis," he said.

"It's much too soon to have the kind of vital record health data that's typically used to model estimates of overall [flu] deaths," he added. "I think it'll take another 1 to 2 years after the pandemic to collect this kind of data and come up with estimates. The WHO estimates that 150 million doses of H1N1 vaccine have been distributed in about 40 countries so far," Fukuda said. Meanwhile, the WHO released a statement today to allay concerns it said have been voiced in the news media that experts on some of the agency's advisory committees have pharmaceutical industry ties that influence policy decisions related to the pandemic. The statement says the WHO has historically collaborated with the pharmaceutical industry because efforts to improve health depend on access to effective and affordable medicines, vaccines, and diagnostics. The agency said it has many safeguards to identify and deal with potential conflicts of interest.

International, Swine (DEFRA Information Bulletin [edited], December 2): A 6th case of pandemic H1N1 2009 influenza virus in pigs has today [2 Dec 2009] been confirmed in the UK. Pigs on a farm in Norfolk [England] have been confirmed as having a strain of influenza commonly known as 'swine flu' in people. This follows earlier cases in Northern Ireland.

Routine scanning surveillance has confirmed that the strain of the virus found is virtually identical to strains currently circulating in humans. It is not uncommon for pigs to be affected by influenza. Influenza in pigs is not a notifiable disease. Voluntary measures set out in a new Code of Practice on influenza in pigs drawn up by the pig industry, Defra, Devolved Administrations, and other government bodies, are in place on the farm.

There is no food safety risk, pandemic H1N1 2009 has not been shown to be transmissible to people through eating properly handled and cooked pork or pork products.

International, Swine (OIE [edited], December 4): Pandemic A/H1N1 virus, Italy
Date of 1st confirmation of the event: 27 Nov 2009; Report date: 04 Dec 2009
Date submitted to OIE: 04 Dec 2009; Date event resolved: 04 Dec 2009
Causal agent: Pandemic A/H1N1 virus

Outbreak 1: (1 A/H1N1) Nerviano, Milano, Lombardia; Epidemiological unit: Farm
Species: Swine; Susceptible: 1250; Cases: 375; Deaths: 0; Destroyed: 0; Slaughtered: 0
Affected Population: The breeding sows were sick with lack of appetite, weakness and fever. All sows recovered fully in few days.
Apparent morbidity rate: 30.00 percent; Apparent mortality rate: 0.00 percent; Apparent case fatality rate: 0.00 percent; Proportion susceptible animals lost: 0.00 percent

Epidemiology: Source of the outbreak(s) or origin of infection: Unknown or inconclusive
Epidemiological comments: Positivity detected in the framework of the strengthened surveillance.
Control measures. Measures applied - No vaccination; No treatment of affected animals
Measures to be applied; No other measures

International, Swine (OIE [edited], December 7): 2009 Pandemic H1N1 virus, Country: Mexico
Date of first confirmation of the event: 01/05/2009; Date of Start of Event: 30/04/2009
Date of report: 07/12/2009; Date Submitted To OIE: 10/12/2009
State: QUERETARO; Municipality: COLON; Location: QUERÉTARO
Species: Swine; Susceptible: 360; Cases: 2; Deaths: 0; Destroyed: 0; Slaughtered: 1

Epidemiological comments: Following the pandemic occurred between March and April 2009, epidemiological surveillance was strengthened in pig farms all over the country, resulting in the detection of this outbreak. So far, regular official monitoring has been carried out both in the outbreak and around it and no more animals with clinical signs were found.
Source of the outbreak(s) or origin of infection: Unknown or inconclusive
Control Measures Applied: Movement control inside country, screening, zoning, modified stamping out
To be applied: No Planned Control Measures; Animals treated: Yes; Vaccination Prohibited: No

International, Swine (OIE [edited], December 10): Influenza A H1N1; Country: Germany
Date of first confirmation of the event: 03/12/2009; Date of Start of Event: 21/11/2009
Date of report: 10/12/2009; Date Submitted To OIE: 10/12/2009
Province: RHEINLAND-PFALZ; Unit Type: Farm; Location: Rhineland-Palatinate
Species: Swine; Susceptible: 425; Cases: 2; Deaths: 2; Destroyed: 0; Slaughtered: 0

Epidemiological comments: According to an EU-agreement animals in the establishment are isolated until 7 days after disappearance of clinical signs. After that they can be moved for trade or slaughter.
Source of the outbreak(s) or origin of infection: Unknown or inconclusive
Control Measures Applied: Quarantine; To be applied: No Planned Control Measures
Animals treated: No; Vaccination Prohibited: No

Michigan Wild Bird Surveillance (USDA, as of December 10): For the 2009 testing season (April 1, 2009-March 31, 2010), HPAI subtype H5N1 has not been recovered from any of the 107 Michigan samples tested to date, including 58 live wild birds, 35 hunter-killed birds and 14 morbidity/mortality specimens. H5N1 HPAI has not been recovered from 14,584 samples tested nationwide. For more information, visit the National HPAI Early Detection Data System at http://wildlifedisease.nbii.gov/ai/.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at http://www.michigan.gov/emergingdiseases.

Please contact Susan Peters at PetersS1@Michigan.gov with any questions regarding this newsletter or to be added to the weekly electronic mailing list.

Contributors

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Table 1. H5N1 Influenza in Poultry (Outbreaks up to November 5, 2009)

(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 11/12/09)

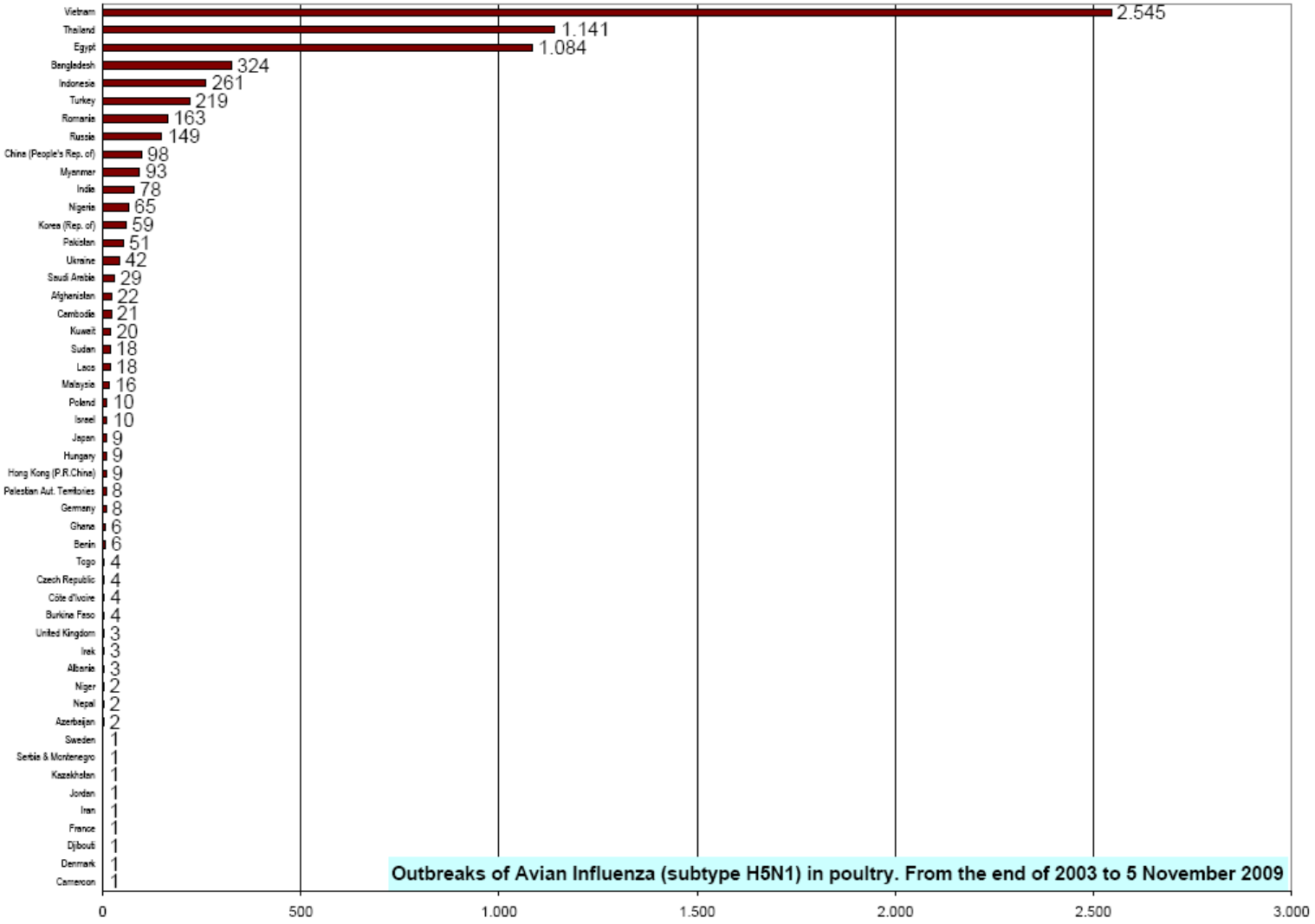

Table 2. H5N1 Influenza in Humans (Cases up to November 27, 2009)

(http://www.who.int/csr/disease/avian_influenza/country/cases_table_2009_11_27/en/index.html Downloaded 11/30/2009)

Cumulative number of lab-confirmed human cases reported to WHO. Total number of cases includes deaths.

Country	2003		2004		2005		2006		2007		2008		2009		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	0	0	8	7
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	38	25
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	8	4	38	4	89	27
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	0	0	141	115
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	0	0	3	2
Lao People's Democratic Republic	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	4	4	111	56
Total	4	4	46	32	98	43	115	79	88	59	44	33	49	12	444	262